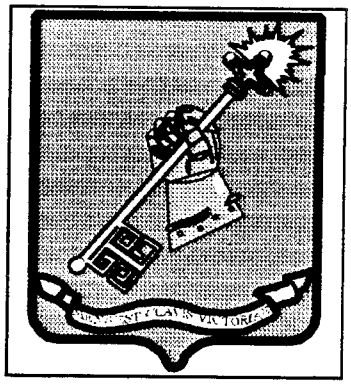
# MOBILE STRIKE FORCE
# DESIGNING THE FORCE XXI DIVISION

A Monograph
by

Major Jeffery S. Bess
Infantry



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ABSTRACT

MOBILE STRIKE FORCE - DESIGNING THE FORCE XXI DIVISION by MAJ Jeffery S. Bess, USA, 51 pages.

This monograph examines the Mobile Strike Force methodology used to design the Force XXI division. This methodology seeks to integrate current and future technologies into the organization to increase versatility and lethality while reducing the size of the force. This, in turn, will allow the rapid deployment of the Force XXI division in support full dimensional operations.

The monograph first examines the previous force design initiatives of Division 86 and the Army of Excellence. The examination allows for the development of lessons learned in the areas of doctrine, technology, and resources. Next, the monograph studies the Mobile Strike Force and the integration into the Battle Labs. The Battle Labs design a division structure with current and future technology and then test the organization in simulation based on the concept of future operations in TRADOC Pam 525-5.

The study concludes with an evaluation of how the Mobile Strike Force has applied the previous lessons learned. The Mobile Strike Force methodology has done an exceptional job integrating future concepts and technology as well as addressing future resource constraints. Further analysis provides advantages and disadvantages of the Mobile Strike Force methodology. A goal of the Army should be to maximize the advantages and counteract the disadvantages. If this is done, there will be very little doubt that the Force XXI division will be a premier land combat force.

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## I. INTRODUCTION

As the 21st century approaches, there are many new challenges facing the military. The Berlin Wall came down and left the military without a well-defined enemy. In 1993, the Army adopted the concept of full dimensional operations. These two factors in conjunction with the drawdown of personnel, additional budget constraints, and fast evolving technology have created the need to look at restructuring the entire force.

Arguably, in the last five years the Army has changed as rapidly as the world. To meet the demands of the future, the Army has started a major initiative to build the Army of the 21st century, called Force XXI.

> "Force XXI will leverage the capabilities of the latest technologies to optimize the skill and courage of our soldiers. We will integrate information age technology with our tactical units. We will redesign units, built around people and new technologies, to enhance their agility, versatility, and lethality."[1]

The redesign of tactical units is a major aspect of Force XXI. As a result, there is a new division restructuring initiative known as the Mobile Strike Force. The intent is to:

> "Build a land combat force from Battle Lab input, that uses organizational, materiel, and operational concepts derived from TRADOC Pam 525-5, and that may not exist today in order to increase significantly lethality, survivability, and tempo of land combat in the 21st century."[2]

The Mobile Strike Force is a methodology; it is not a specific unit nor is it a unit with unique capabilities. The Army is not going to field the new organization as a specialized division. "Mobile Strike Force" is just a name that describes the current initiative. It uses a "test vehicle" to design the Force XXI division.[3] Force designers "build" numerous division structures by mixing and matching several technologies and systems.

Once designers develop a structure, the six Battle Labs test the organization in simulation based on a concept of future operations outlined in TRADOC Pam 525-5. The Battle Labs are internetted, not hierarchical, organizations that can conduct independent experiments or simulations in conjunction with each other. They each analyze a battlefield dynamic that has the greatest potential for change in the 21st century.[4] Based on simulation results, designers make changes to the Force XXI division and continually retest it to refine the structure.

With the design process underway, the Army must determine if the Mobile Strike Force is a sound method for designing the Force XXI division. This question needs an answer in the early stages of the process before the Army spends any additional time using the Mobile Strike Force.

A comparison between the Mobile Strike Force and previous force design initiatives in terms of doctrine, technology, and resources will provide the necessary information for analysis and evaluation. In order for the Mobile Strike Force to succeed, the Army must avoid the problems of the past and adapt to the current lessons learned. If this occurs, then the Mobile Strike Force can provide essential insight for designing the Force XXI division.

## II. HISTORICAL BACKGROUND

Since the 1970's, the United States Army has implemented two major force design initiatives and many minor modifications that changed the structure of the division. The two initiatives were Division 86 and the Army of Excellence. These changes resulted from a perception of a future battlefield that was different in some aspect. The Army's intent was to match the development of the new division structures to the perception of future battlefield conditions.[5] Many factors precipitated a change in the division structure with changes in doctrine, technology, and resources of both the Army and its potential enemies having the most impact.

### A. DIVISION 86

Division 86 was the first major reorganization after the Vietnam War that affected the entire Army. There were many studies and tests, such as the Division Restructuring Study and the Triple Capable (TRICAP) Division, that led up to Division 86. These actions, in conjunction with the changing environment of conflict, led to another major redesign of the army division. The most significant catalyst shaping Division 86 was the 1973 Mideast War. The events of the 1973 war produced major changes in the Army.

## Doctrine

The 1973 Mideast War and the continued build-up of forces by the Soviet Union strongly influenced the 1976 version of FM 100-5.[6] The impact of the Sagger missile led to the increased emphasis on survivability and reinforced the perceived power of the defense. The Army, which was still engaged in the defense of Western Europe, viewed the Soviet build-up of forces as a major threat. In order to fight outnumbered and win, the Army believed it had to win the first battle by becoming more lethal and exploiting the power of the defense. This led to the development of the Active Defense doctrine. However, the threat to Europe by the build-up of Soviet forces with lethal, technologically advanced weapons led to the Active Defense becoming very focused on the European theater.

The main criticisms of the Active Defense were the focus on Europe and overemphasis on firepower.[7] There were also questions about how the Army would defeat second echelon forces of the enemy. These concerns led to a major revision of FM 100-5.

The substantial changes in 1982 Army Operations articulated AirLand Battle. It was a more offense-oriented military operational doctrine.[8] The political situation at this time did not allow for the surrender of any Western

European territory. Consequently, the primary mission of defending Europe remained. However, in order to defeat a numerically superior force the Army had to attack the enemy throughout the depth of his formations. The application of advanced weaponry then, still in development, was going to provide the capability to defeat the enemy. The belief was that a technologically superior force in relation to the numerically superior Soviets would deter a Warsaw Pact attack in Europe. This caused the shift in the fundamental mission of the Army from winning the first battle to deterring war.[9] The Army now believed that a modernized offense-oriented force was more capable than a less lethal defense-oriented force.

## Technology

While the Active Defense and AirLand Battle doctrines were in development, the impact of technology was growing. The prime focus of Division 86 was to make heavy divisions more lethal.[10] In the 1970's, the Army initiated the design of the M1 tank and the M2 Infantry Fighting Vehicle (IFV). The new tank provided a significant increase in protection, speed, and firepower. The IFV gave the soldier protection while maneuvering on the battlefield and increased firepower, including the TOW antitank weapon system, to

destroy enemy armored vehicles. The speed of the IFV allowed it to keep pace with the M1 tank while conducting combat operations. Additionally, the development of the Multiple Launch Rocket System (MLRS) gave commanders a field artillery system with the capability to engage targets at greater ranges and with more destructive firepower.

In relation to the Active Defense, these new weapons supported the firepower orientation and focus on Europe. Increased firepower would provide the capability to defeat an enemy armored attack and win the first battle. Armor protection and speed would increase survivability against the Sagger and its descendants on the battlefield.

These advanced weapons also allowed for the execution of AirLand Battle. The M1 and M2 increased the strength of the defense through superior firepower. They also provided a strong capability to conduct offensive operations due to the increase in speed and survivability. The MLRS enabled a tactical commander to engage second echelon forces while fighting the first echelon. The combination of these systems gave the Army the ability it needed to attack the enemy throughout the depth of his formation.

Another concern was the structure of the standard infantry division. The events in Iran in 1979 and the

Soviet invasion of Afghanistan highlighted the need for rapidly deployable light infantry divisions.

> "These events led to a change in the strategic-political perceptions of Carter Administration policymakers, who became alert to foreign policy necessities in an increasingly unstable world and the need for flexible contingency forces."[11]

In order to meet the demands of the European theater as well as possible conflict in third world countries, deployment and lethality became the focal points for designing the light division.[12] The Army leadership viewed technology as a way to lighten the division for deployability and increase the anti-armor capability. The goal was to reduce the size of the division to 14,000 soldiers. However, the complexities of designing a light force that was rapidly deployable and could fight in Europe proved too difficult. The result was a standard infantry division of over 17,000 personnel.[13]

In 1980, the Army designated the 9th Infantry Division (9th ID) as the High Technology Test Bed and tasked them to test the High Technology Light Division. However, there was confusion between the Army senior leadership and the 9th ID. The issue was whether the 9th ID was to test Infantry Division 86 or continue to refine the current design. Another major problem was that the concept failed to get funding.[14] The High Technology Light Division design did

not improve the operational effectiveness or deployability of the light division of the early 1980's.[15] As a result, there was never any development of a High Technology Light Division.

## Resources

The Army conducted the entire Army 86 initiative with little regard to resources in terms of personnel and budget. The feeling was that the Reagan Administration would continue to increase the defense budget. As a result, the Army designed Division 86 with the belief that Congress would increase the end-strength above the 780,000 Active Army level. This did not occur, and the Army did not press for a higher active-component end-strength to man the larger designs.[16] Even though there were some initial personnel constraints, the mechanized infantry division grew to 20,250 personnel. The infantry division strength was 17,773 personnel and the Corps strength (less the divisions) was 85,118 personnel.[17]

The proposed size of these units led to a major resource problem. The Army would be unable to fill 368,000 Army 86 positions; it required an additional 25,000 personnel just to man the heavy divisions. There were also serious shortages of skilled personnel to staff new designs. In terms of dollars, the Army needed an additional $5

million to develop new training and doctrinal literature and an additional $7 billion for new facilities to accommodate newly designed forces.[18]

## SUMMARY

The Division 86 design had some problems linking resources, doctrine and technology. BG John C. Bahnsen, Jr. recognized this and stated:

> "In that watershed year [1982], it became obvious that nothing fit together--not doctrine, not structure, not end strength."[19]

The Soviet build-up and technologically advanced weapons drove doctrine and organization design. The Army was not developing weapons to fight a new doctrine; the doctrine was developed around the new weapons. Additionally, the Army was short in terms of personnel to field the Army 86 organizations. This resulted in the inability to use fully the new technology to fight the AirLand Battle doctrine.

## B. ARMY OF EXCELLENCE

The Army soon realized that there would not be an increase in end-strength. This made the Division 86 design too costly. Additionally, there was still a need for a light infantry contingency force. As a result, in 1983 the Army started another redesign initiative known as the Army of Excellence.[20]

### Doctrine

The 1986 version of FM 100-5 replaced the 1982 FM 100-5 further refining AirLand Battle and placing more emphasis on the operational level of war. The possibility of third world crises led to the inclusion of low intensity conflict in the 1986 version.[21] As with Division 86 and the previous FM 100-5, light forces for third world contingencies had to be strategically deployable yet retain lethality for Europe. The need for light and heavy forces was hard to balance. Consequently, this necessity strained resources and put more emphasis on technology.

### Technology

The Army of Excellence (AOE) continued to build upon the technologies developed during the 1970's. Heavy divisions were still receiving the new M1 tanks and M2

Infantry Fighting Vehicles in addition to many other new pieces of equipment.

General John A. Wickham, Jr., Army Chief of Staff, retained the 9th ID as a test bed for heavy and light concepts. Additionally, the division changed to a motorized structure. It still had a wartime mission and an end-strength of approximately 13,000.[22] Basically, the 9th ID was now working separately from the AOE process.

The Army still needed a light division. The AOE design goal was a 10,000 man division that was capable of deploying in 500 C-141 aircraft sorties. After the Army developed a structure, the 7th Infantry Division began testing in 1985. The new division--with additional artillery firepower and aviation assets--conducted a complete certification of the light infantry division design in the field. Field testing included individual unit training and evaluation, brigade level field training exercises, and division command post exercises. This testing highlighted the need for numerous changes in the structure to include the signal and maintenance battalions. The result was a 10,843 man light infantry division that was deployable in 550 C-141 aircraft sorties.[23]

The new light division met the requirements for deployability, but lacked a strong anti-armor capability.

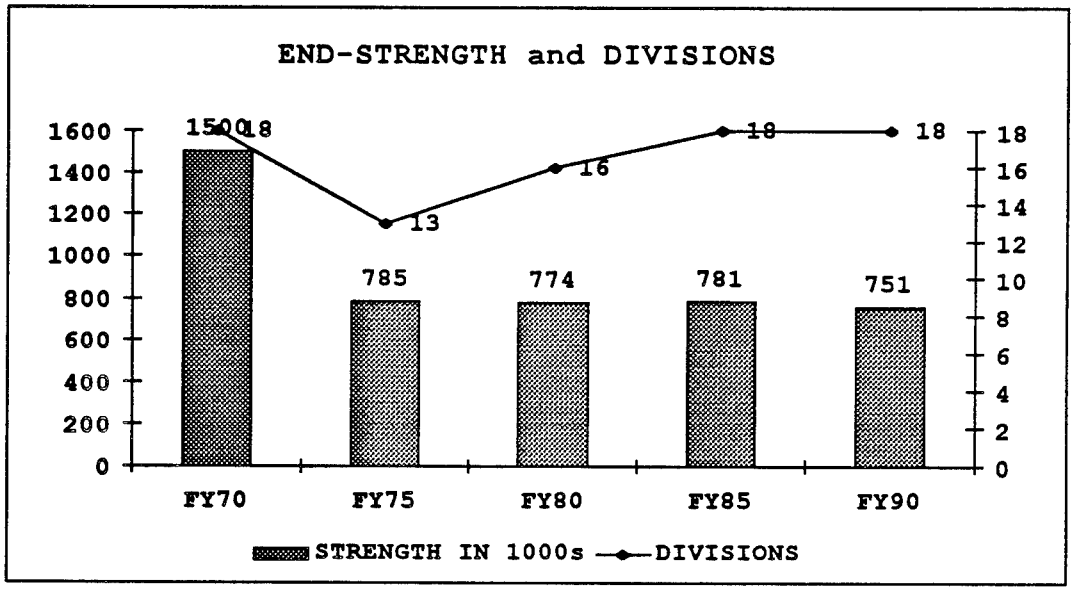
This is still a problem with light forces today. However, the Army decided to adopt the new design and add additional light divisions to the force structure. These additional units combined with the retention of the 9th ID put a strain on resources.

## Resources

End-strength was critical in the AOE design. The Division 86 structures were too costly in terms of manpower. As a result, AOE decreased the size of units to meet end-strength requirements. These reductions in conjunction with the addition of light infantry divisions precipitated other changes in the force structure. The Army reduced infantry squads and howitzer crews to nine men.[24] Additionally, due to political considerations and manpower constraints, the senior leadership still had to rely on reserve forces. Reserves would continue to provide roundout brigades to some divisions and certain support units to corps. The belief was that specific reductions in selected units and reliance on reserve forces would allow for the desired 18 division structure while remaining at a total active Army end-strength of 780,000 personnel.

However, during the time of Division 86 and AOE, the Army increased the number of active divisions to 18 at the

same time the end-strength decreased to 751,000 personnel. The graph below depicts the comparison of divisions and end-strength from 1970 through Division 86 and AOE to 1990.[25]




## SUMMARY

The Army's efforts in linking technology and resources in the force design process were only partially successful. The increase in the number of divisions while maintaining the same total end-strength eliminated some support forces from the active military. This placed a greater reliance on the reserve forces at the same time the new technologically superior force required more logistical support.[26]

The Army designed AOE very quickly which required risk taking. There was little examination of division structures

before field testing. As a result, field testing identified many changes that were necessary in the force designs.[27] These multiple changes within subordinate elements of the divisions created a difficulty in tracking which units had changed to the AOE structure. The result was a slow transition to the AOE design. As of 30 September 1989, the Army had converted 56 percent of the force structure (71 percent of combat forces and 28 percent of support forces) to the AOE design.[28]

Even though there were some problems in the development of the Army of Excellence, the Army designed a superior force. Doctrine adapted to include the challenges of low intensity conflict. Force designers built upon the foundation of Army 86 instead of starting the design process from the very beginning. More importantly, the AOE process successfully integrated many technological advances of the 1980's even though the design process did not totally integrate the High Technology Test Bed concept.

## III. CURRENT FORCE DESIGN INITIATIVE

Even though the Army was successful in the past, it must keep stride with the current changes. There are many factors having an impact on force design today. First, the Army has a new doctrine and a concept for Force XXI operations. Second, technology is growing at a rapid pace. Third, the budget in terms of end-strength and money is continuing to go down. These three factors are forcing the Army to look at developing a force for the future.

The battlefield is changing in drastic ways. In the past, there was a perception that the current division organization would not meet the conditions of the future battlefield.[29] Today, the Army senior leadership has the same perception compounded by the additional problem of a resource constrained environment. GEN Gordon R. Sullivan, Army Chief of Staff stated:

> "It's hard to predict which battlefields we'll fight on or what those battlefields will look like in their entirety."[30]

As the strategic conditions evolve, the Army must be ready to meet new challenges. In the past, force designers used initiatives such as Division 86 and the AOE. Today, the force design initiative is the Mobile Strike Force.

## The Mobile Strike Force

The Mobile Strike Force methodology uses a "test vehicle" to assist the Army in designing the Force XXI division.[31] To better understand how the Army designs organizations using the Mobile Strike Force, think of the Mobile Strike Force as a personal computer. Each component has a different capability and function. The owner can mix and match each item to build a system that meets his needs. He can upgrade the microprocessor, hard drive, or memory and add additional components such as a CD-ROM, disk drive, or modem. The user can also upgrade or change the software that runs the computer. This compares to the Mobile Strike Force. There are many different pieces of equipment and other technologies currently fielded and in the development stages. A force designer can build an organization by mixing and matching personnel, equipment, and technologies into a unit structure that can fight and win on the future battlefield.

The Army is currently redesigning the heavy division as a technologically advanced unit.

> "The Mobile Strike Force (MSF) is a conceptual, fully digitized heavy division equipped with technologies and systems projected to be available at or near the beginning of the 21st century."[32]

The Army can also use the Mobile Strike Force to test designs for other types of divisions, separate brigades, armored cavalry regiments, and support units.

Once the Army has a new design, it is tested through simulation and during other experiments such as the annual Prairie Warrior exercise at the United States Army Command and General Staff College.

> "The Mobile Strike Force experiment, conducted with the Prairie Warrior GHQ-X94 Louisiana Maneuvers exercise, provides additional insights into the potential impact of future technologies on doctrine, tactics, and organization requirements."[33]

The Battle Labs are critical in designing the Force XXI division. They conduct the simulations and determine the necessary changes in the structure ("test vehicle") and continually refine the organization.

## Battle Labs

The Army needed a new way to design a force to fight on the future battlefield. The result was the Battle Labs, an idea of GEN Franks.

> "To maintain an army that can meet threats anywhere in the world, he [GEN Franks] believes the Army needs a way of analyzing critical deficiencies and then developing and prioritizing solutions across the TRADOC development domains of doctrine, training, leader development, organization, materiel, and soldier requirements."[34]

With the era of tight budgets, Battle Labs rely heavily on computer simulations to test concepts before the Army validates the design in the field.[35]

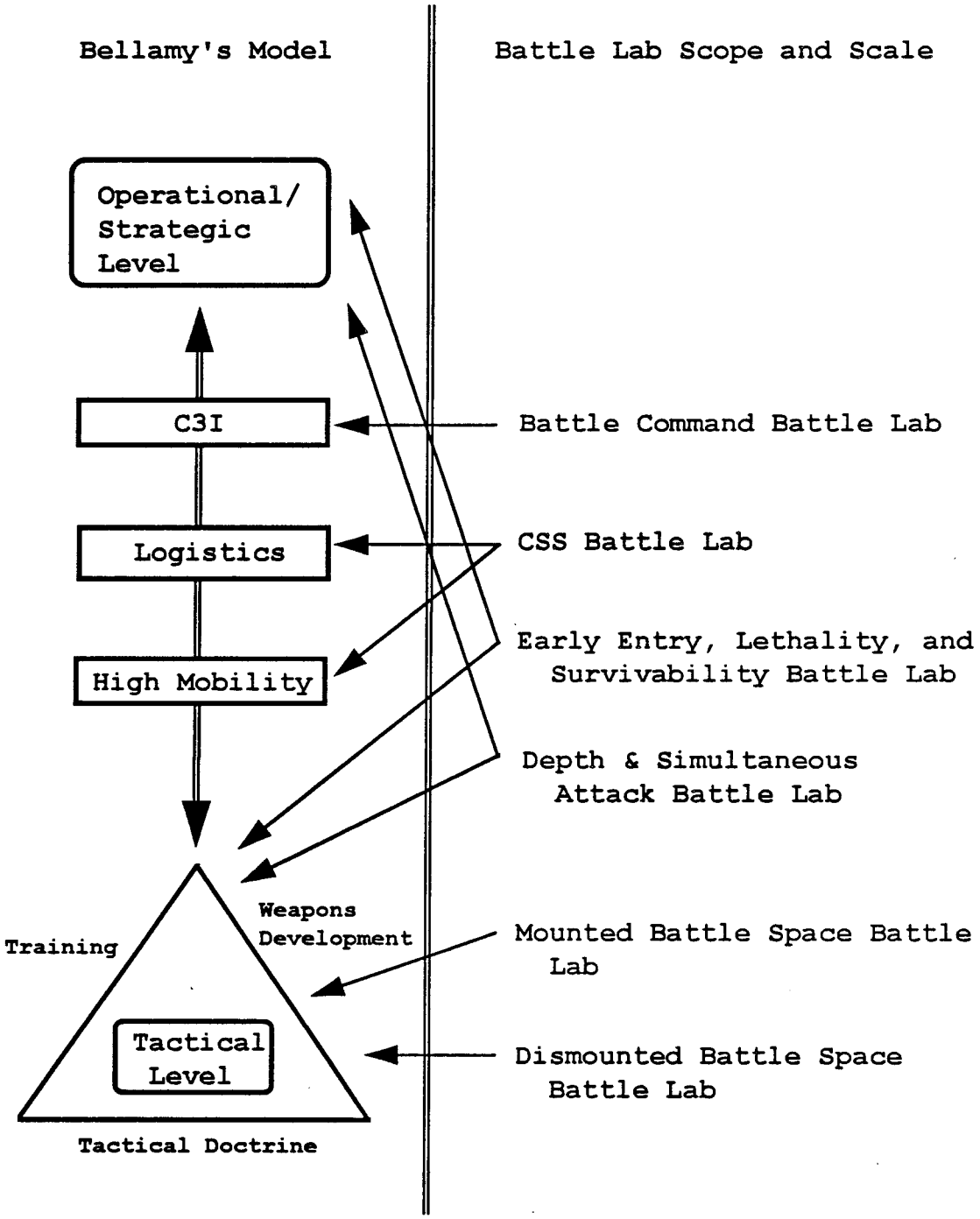
The Army currently has six Battle Labs: Battle Command, Combat Service Support, Depth & Simultaneous Attack, Mounted Battle Space, Dismounted Battle Space, and the Early Entry, Lethality, and Survivability Battle Lab. Each of these labs tests a new organization within its respective battlefield dynamic through simulation. Branches and other individual proponents provide input to the Battle Labs to test certain aspects of the force design. For example, Armor branch provides their concerns and ideas to the Mounted Battle Space Battle Lab which is responsible for the brigade formation/organization experiment. After the Battle Lab tests the organization, the Battle Lab and Armor branch analyze the results and make recommendations for changes.[36] Designers then incorporate the changes into a refined structure for retesting. The ultimate purpose of the Battle Labs is to test the division through simulations to see if it will work before the Army validates the design in the field.[37]

There is a definite correlation between the scope and scale of the Battle Labs and Christopher Bellamy's concept of technology and its role in the military. Bellamy, in his

book The Evolution of Modern Land Warfare, asserts that technology alone is not the dominant factor in war. He argues that the combination of *tactical doctrine* and *training of combatants* combined with *weapons development* (technology) is the basis for obtaining a decisive advantage. Consequently, this triangle should be the framework for designing the techniques of warfare. Bellamy also states that moving from the tactical level to the operational and strategic levels of war requires the best command, control, communications, and intelligence (C3I), logistics, and mobility.[38]

The Battle Labs, through simulation, address each area that Bellamy highlights. In addition to testing the overall design, Battle Labs also determine future training requirements for soldiers, suggest necessary changes to doctrine, and integrate technology into the force design. They also integrate logistics, mobility, and C3I into simulations to ensure the links are present among the tactical, operational, and strategic levels. For example, a contingency unit would not be effective unless it was strategically deployable, logistically sustainable, and capable of communicating after completion of early entry operations. Chart 1 on the next page shows the relationship between Bellamy's concept and the Battle Labs.

CHART 1


Bellamy's Model
Battle Lab Scope and Scale
Operational/ Strategic Level
C3I
Logistics
High Mobility
Training
Weapons Development
Tactical Level
Tactical Doctrine
Battle Command Battle Lab
CSS Battle Lab
Early Entry, Lethality, and Survivability Battle Lab
Depth & Simultaneous Attack Battle Lab
Mounted Battle Space Battle Lab
Dismounted Battle Space Battle Lab

The Battle Labs and Bellamy are addressing the same concerns. In both cases, technology is not the panacea. The primary goal in each is to integrate technology into the force structure while at the same time identifying training requirements and changes in operational doctrine. By doing this and not building a unit around an advanced piece of technology, the future organization would be a lethal combat force instead of a force that could not use its technological assets.

## Impact of New Doctrine and Future Concepts

The Army published the new FM 100-5, Operations, in June 1993 and TRADOC Pamphlet 525-5, Force XXI Operations in August 1994. The latter is a vision of how the Army will conduct operations in the 21st century. The Battle Labs test new organizations within the parameters of future operations outlined in these two publications. This enables the Army to design a force for the future, not a force to fight the previous war. The operations described in these two publications have forced the Army to rethink all aspects of warfighting to include force design.

There are three major concepts in FM 100-5 and TRADOC Pam 525-5 that impact on the design of the Force XXI division. First, the Army adopted a concept of full

dimensional operations.[39] Second, the principle of being forward deployed has shifted to one of force projection. Third, future operations will be knowledge-based in a digital framework.[40]

Full dimensional operations are "the application of all capabilities available to an Army commander to accomplish his mission decisively and at the least cost across the full range of possible operations."[41] The full range of possibilities include war, conflict, and operations other than war including joint and possibly combined operations. The ability of a force to operate in all these environments is the essence of versatility. TRADOC Pam 525-5 states:

> "Therefore, our Army must design organizations and develop capabilities that will allow it to be rapidly tailorable, rapidly expansible, strategically deployable, and effectively employable as part of a joint and multinational team to achieve decisive results in future War and OOTW in all operational environments."[42]

Based on this, the Army is designing a division with unprecedented versatility. The Force XXI division will not be constrained to operating in one environment.

The Army, as a result of returning units to the continental United States (CONUS) from overseas, is now a force projection Army. The six force projection principles are task organize an effective mix of Active, Guard, and Reserve forces; respond quickly with highly trained,

flexible units; apply overwhelming disciplined combat power; win the battle quickly with rapid battlefield maneuver, simultaneous and synchronized attacks throughout the depth of the battlefield, and the application of firepower; prepare to reinforce the operation with additional combat forces and logistics; and recover, reconstitute, and redirect forces for subsequent operations.[43] Some units will remain overseas depending on the current political and military situation in the area. With a majority of the force in CONUS, however, the Army's ability to rapidly reinforce forward deployed forces and to react to other contingencies is paramount. Along with versatility, the Force XXI division have to be rapidly deployable.

To operate in all environments, TRADOC Pam 525-5 envisions a knowledge-based force operating in a digital framework. Knowledge-based operations use shared knowledge made possible through the advance in weapons and information technology. Digitization will organize the battlefield and control operational tempo through a shared common picture and a timely perception of battlespace.[44] The effect of technology in today's information age is having a major impact on how the Army will fight in the future just as technology affected the Army of the past.

## Impact of New Technologies

The integration of new weapons systems and information technologies into the design of the future division is an important aspect of the Mobile Strike Force methodology. Commensurate with the downsizing of the Army, organizational designers can use technology to decrease the size of the units while expanding lethality, survivability, and deployability.[45]

The increase in the lethality of modern weapons is forcing leaders to study the actual composition of a unit. A common thought is that a brigade today has the same combat power of a World War II division. Technology was the catalyst for this increase in combat power. Today, the Army is developing weapons systems such as the Paladin howitzer and the Comanche helicopter. The ability of operators of these and other systems to share knowledge through digitization combined with more lethal weapons will give the future force more combat power. The potential to decrease the actual number of combat systems in a unit while increasing lethality is possible through the application of technology. If a reduction in size is possible, the deployability of units will increase.

Another concern for designers is personnel strength. As the Army gets smaller, demands on the individual will

increase. Consequently, technology will need to execute some functions that personnel accomplished in the past. For example, the Army is conducting experiments to determine if a reduction in the size of a staff is possible by increasing the speed of information processing. Additionally, the Army desires to decrease manpower by increasing automation in the areas of logistics.[46]

Information and its effective use are key to knowledge-based operations. Computers and space-based systems have the potential to provide the commander with vastly increased amounts of information. This information, along with digitized weapons systems, will eventually provide the commander with a relevant common picture to enable him to more effectively command his unit in combat. Digitization will allow the application of combat power throughout the depth of the hostile sector.[47] The potential of getting near real-time or real-time information to the commander will allow him to make quicker and more informed decisions thus reducing risk on the future battlefield.

With technology advancing at a rapid pace, the future division must be extensible.[48] Proper integration will allow the Army to upgrade or add additional technologies to the division as they become available. The Mobile Strike Force methodology allows for experimentation to determine

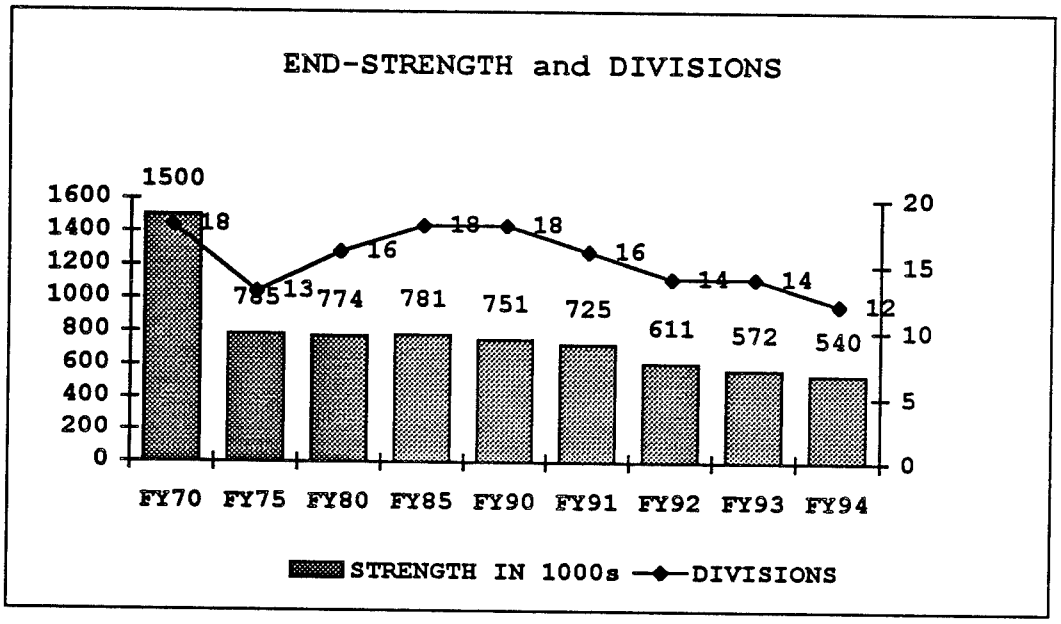
which technologies the Force XXI division needs to fight on the future battlefield and the training requirements for soldiers and units. As a result, the best possible application of technology can occur before the Army tests the new design in the field.

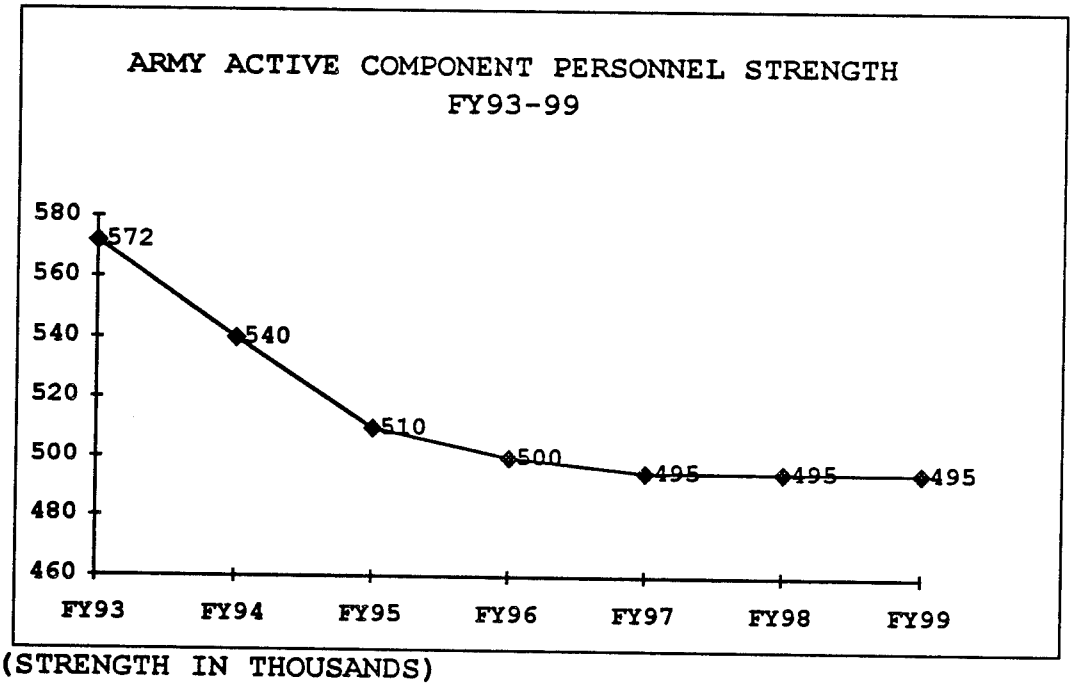
The quest to stay "state of the art" is always hard. Today with decreasing budgets and personnel strength, the development and implementation of these new technologies into the force design is going to provide a great challenge to the Army.

## Impact of Resource Constraints

The decrease in the size of the Army is continuing but is expected to stabilize at the turn of the century. The outcome, however, will be a smaller force than the one that served the nation well through the early 1990's.[49] The Bottom-Up Review, conducted by the Department of Defense, determined the force structure necessary to fight and win two nearly simultaneous major regional contingencies. As a result, by FY99 the active force will have 10 divisions and an end-strength of 495,000. There is always the possibility that these numbers could go lower. In conjunction with the

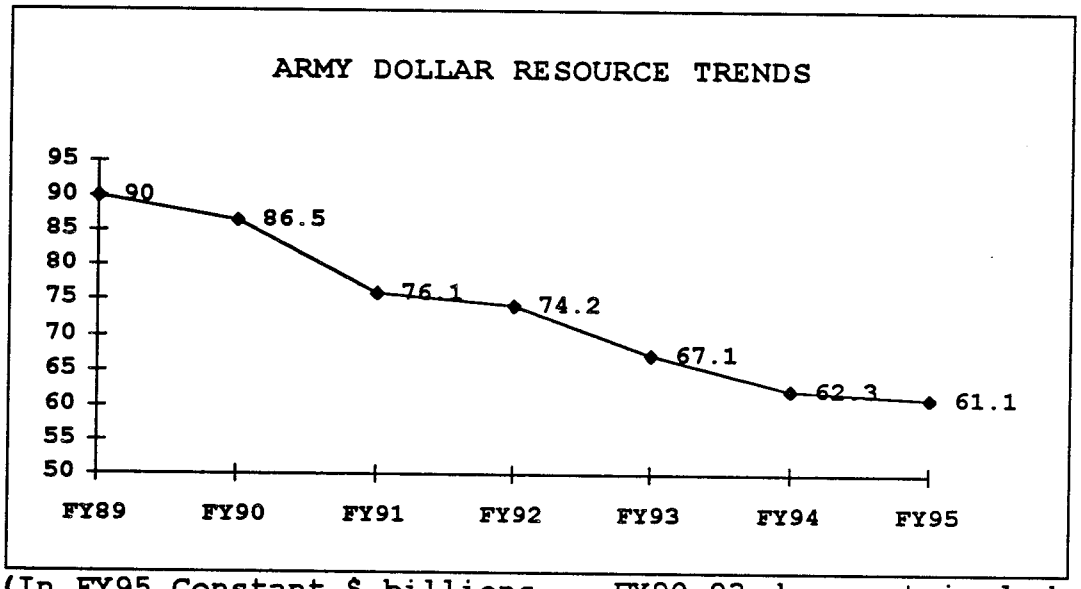
downsizing of force structure, the Army's budget is shrinking. The following graphs depict the changes:[50]




(STRENGTH IN THOUSANDS)

Money is always a critical resource. The following graph depicts the dollar resource trends through FY95:[51]




(In FY95 Constant $ billions -- FY90-93 does not include Operation Desert Storm)

The Army senior leadership hopes that the budget will stabilize at the $61 billion level. However, out-year projections show that the budget may fall as low as $56 billion.[52]

The continuing decline of resources in manpower and money will make the Army's mission harder to accomplish. TRADOC Pam 525-5 addresses the resource problem very specifically by stating:

> "In summary, the Army will have to make wise use of *all* of its resources to meet the challenges of the future."[53]

Reduction in the budget will cause a slowdown in the research and development of new technologies. Military technology will likely advance at a slower rate than commercial development of technology.[54] With the civilian sector paying for some research and development costs, the Army is eventually going to save dollars. Therefore, the application of civilian designed technology into the military is critical in order to stay "state of the art." This is necessary in the era of declining budgets.

Budget reductions cannot be an excuse for not continuing to be innovative. The Army must continue to look to the future. Stephen Peter Rosen, in his book Winning the Next War, states:

> "...successful innovations examined were initiated in periods of constrained resources at least as often as in periods during which budgets were large and growing."[55]

Rosen cites many examples of this innovation including the USMC development of amphibious warfare and the Navy's transformation from a battleship navy to a carrier navy.[56] These innovations occurred prior to World War II, a period of modest budgets and other political constraints.

The Mobile Strike Force methodology, through simulation, allows for innovation during budget downsizing. The Army cannot afford to task a current division to test

the new design for an extended period of time. With the reduction of the number of divisions on active duty, the Army cannot afford to go through a long validation process as the 7th Infantry Division did with the light division design. The conditions change too quickly for long lead time efforts and there are too few dollars to spend on designing live experiments.

## IV. ANALYSIS AND EVALUATION

In determining whether the Mobile Strike Force can help design the Force XXI division, the Army must avoid the mistakes of the past. A comparison between the Mobile Strike Force and previous force design initiatives in the areas of doctrine, technology, and resources provides a clear picture of whether the Mobile Strike Force is a sound method for force design. Second, the Army must look at current lessons learned to prevent the emergence of new problems in designing the Force XXI division.

The table below shows what factors caused the Army to redesign the division in the areas of doctrine, technology, and resources. Additionally, the chart shows other major factors to provide a better understanding of what caused the division to change.

MAJOR CATALYSTS OF CHANGE

| | DOCTRINE | TECHNOLOGY | RESOURCES | OTHER |
|---|---|---|---|---|
| DIVISION 86<br>1982 | AIRLAND<br>BATTLE | MODERN<br>WEAPONRY/<br>INCREASED<br>FIREPOWER | | SOVIET BUILD<br>UP/1973 WAR |
| AOE<br>1984 | AIRLAND<br>BATTLE | | END-STRENGTH<br>RECOGNIZED | LOW INTENSITY<br>CONFLICT |
| FORCE XXI<br>?? | FULL<br>DIMENSIONAL<br>OPERATIONS/<br>1994 TRADOC<br>PAM 525-5 | INTEGRATION<br>THROUGH<br>BATTLE LABS<br>AND TESTING<br>IN THE FIELD | BOTTOM-UP<br>REVIEW | INFORMATION<br>TECHNOLOGY<br>EXPLOSION |

## A. LESSONS LEARNED FROM THE PAST

### Doctrine

Changes in doctrine affected the development of Division 86 and the Army of Excellence. However, those were a result of changes in technology. In fact, technology drove force design until 1983.[57] Previous force designs did not totally link the development of technology and doctrine together to develop a force to fight on a future battlefield. BG Bahnsen addressed this very point in 1985 when he asserted:

> "First came equipment, with the M-1, M-2, M-3 family and other systems dating from the 1970 time frame. Then came doctrine, with Active Defense in 1976. Then came force designs with Division and Corps 86 in 1980. Then came a *change* in doctrine, AirLand Battle in 1982, before any of the previous Division/Corps designs were actually fielded."[58]

As a result, the Army had to make many changes in the organization based on field testing.

There is always friction between doctrine and technology. As the Army designs a new division using the Mobile Strike Force methodology, Battle Labs test the new division in simulation within the parameters of current doctrine and the concepts outlined in TRADOC Pam 525-5. This will facilitate the coupling of doctrine and technology in the force design process. Consequently, leaders can prevent the development of a force that is overwhelmed by

technology. Instead, the outcome will be a force that is technologically capable to operate in any environment.

## Technology

The Mobile Strike Force method integrates technology into the new force design different from in the past. Battle Labs use existing technologies and technologies that will be available in the future and inserts them into the force design. The Battle Labs then test the design in many different operational environments to determine if the inserted technologies satisfy the requirements for the Force XXI division.

In the past, force designers determined how to fight the new division with technologies already in development or just being fielded. With the Mobile Strike Force method, Battle Labs can determine what the Force XXI needs before the Army fields any technology or weapons system. By doing this, the senior leadership can conserve resources by not buying a weapons system or technology that is not functional in the Force XXI division.

## Resources

Analysis and evaluation easily answers the issue of resources. Division 86 gave little consideration to end-

strength. The primary factor for the development of AOE was the realization that Congress was not going to raise end-strength. AOE decreased the size of Division 86 units, but added more divisions to the force structure. This caused a problem for the overall Army force structure.

> "The clarity of hindsight reveals some errors...The AOE reorganization cut too deeply into the robustness of combat formations and the requisite logistical support."[59]

A 1990 General Accounting Office report stated that the Army should base the future size of the Army on an assessment of the threat, possible modifications to U.S. commitments, a strategy that meets U.S. security interests, and a realistic estimate of the budgetary resources that will be available.[60]

The Bottom-Up Review provided an estimate of the resources that will be available in the future. The Army is also aware that there will not be any significant increase in the budget in the near future. With a realistic determination of future size and budget, the Mobile Strike Force can integrate these factors into the force design process. The Battle Labs can use simulation to determine if a smaller force with advanced technologies can effectively operate on the future battlefield. The additional testing will also eliminate the need for many changes when the Army

validates the design in the field. This will also prevent the division that is certifying the new design from conducting the tests over a very long period of time. Consequently, this division will save on operating costs.

## B. CURRENT LESSONS LEARNED

It is not sufficient to analyze the Mobile Strike Force by comparing it to past force design initiatives. The Army must also look at advantages and disadvantages of the Mobile Strike Force. These advantages and disadvantages provide some insight into the process and help determine some current lessons learned.[61]

The greatest advantage of the Mobile Strike Force is the flexibility of the Battle Labs. Extensive testing through simulation reduces risk by giving force designers the flexibility to change the structure of the Force XXI division. If the Army finds a design to be insufficient, force designers correct the deficiencies by changing some aspect of the organization and retesting it. Thorough testing reduces the risk of having a faulty design. This decreases the possibility of having to change the structure during field testing.

Three disadvantages of the Mobile Strike Force are the use of time, understanding of the required capabilities of

the Force XXI division, and resistance to change. If the Army could find a way to counteract the disadvantages, the Army as a whole would more clearly understand the Mobile Strike Force. Better understanding of the methodology would lead to the development of a Force XXI division with fewer problems.

The first disadvantage is that the process could take a long time. At the slightest hint of a problem, force designers can change the organization in hopes of developing the perfect division structure. This process of constant change could use an inordinate amount of time. If there is a problem, force designers should change the affected part and not the entire division design.

In 1994, students at the Command and General Staff College were experimenting with a future division for four months before the annual Prairie Warrior exercise. The intent was to study how technology impacted battle command for this future force. Just before the exercise started, additional units were added to the division structure. As a result, students were distracted by trying to figure out how to integrate the new units into the operation instead of totally focusing on the impact of technology on battle command.

Second, unless the Army determines the required capabilities of the future division, the force designer will not have a clear focus of how to structure the division. Once this is answered, designers can determine specific functions for each part of the Force XXI division. There are also many technologies available for integration. The requirements of the future division and how to integrate technology are hard questions to answer considering that the future environment is still not clear. However, these questions are starting to get answers.

A third disadvantage is that people are resistant to change. For example, during Prairie Warrior 94, students altered the structure of the design being tested so that it would look and fight more like a division of today. They essentially created a third brigade that resembled an armored cavalry regiment and assigned it traditional cavalry missions. The students did not give the new organization a chance. Individual branch parochialism and unfamiliarity of the technology caused this to occur. Leaders at all levels must be able to give the process a chance by keeping open minds.

## V. CONCLUSION

Division 86 and the Army of Excellence were the right designs for the Army of the 1980's. The Army created these organizations based on the military, political, and economic conditions of the time. These initiatives succeeded in creating a lethal force that was extremely successful. As the Army approaches the 21st century, it is apparent that the situation is different.

Today, the Mobile Strike Force is a sound method for the Army in designing the Force XXI division. The key element in the process is risk.[62] The ability to reduce risk in the force design process by using the Mobile Strike Force method will enable the Army to design a Force XXI division that is capable of full dimensional operations, technologically advanced, and able to operate in a resource constrained environment. The Army must continue to be innovative to meet the challenges of the future.

> "The United States military has made many mistakes,...but they all appear to have been the result of failures to innovate, rather than inappropriate innovations."[63]

Cohen and Gooch, in their book Military Misfortunes, analyzed failures in military operations. They determined that there are three kinds of failure in military operations: Failure to learn, failure to anticipate, and

failure to adapt.[64] One can apply these types of failures in analyzing the Mobile Strike Force. The Army is learning from the past and is anticipating the future. The Army must now move ahead and adapt to the requirements of the future.

> "As far as force design goes, one thing that we are doing right is that we are doing it. We are looking at alternatives."[65]

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1. General Gordon R. Sullivan, Army Focus 94 (Washington D.C.: Headquarters, Department of the Army, September, 1994), 9.

2. General Frederick M. Franks, "Winning the Information War," Briefing presented at the TRADOC Commanders Conference, Fort Huachuca, AZ, 14-16 March 1994.

3. COL Allan M. Resnick, interview with author, Fort Leavenworth, KS, 13 September 1994.

4. Battle Labs...Maintaining the Edge (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, Director for Battle Lab Integration and Technology, May 1994), 8-9. The battlefield dynamics are Early Entry, Battle Space, Depth & Simultaneous Attack, Battle Command, and Combat Service Support. These dynamics are what the Army studies to design the force for full dimensional operations. The Army believes that most of the required changes for designing the force will occur within one of these dynamics. Therefore, each Battle Lab has been given the responsibility for one of the dynamics.

5. John L. Romjue, The Army of Excellence: The Development of the 1980's Army, TRADOC Historical Monograph Series (Fort Monroe, VA: Office of the Command Historian, United States Army Training and Doctrine Command, 1993), 4.

6. John L. Romjue, From Active Defense to Airland Battle: The Development of Army Doctrine 1973-1982, TRADOC Historical Monograph Series (Fort Monroe, VA: Historical Office, United States Army Training and Doctrine Command, June 1984), 3.

7. Ibid., 43.

8. Ibid., 66.

9. United States Department of the Army, FM 100-5, Operations (Washington D.C.: U.S. Government Printing Office, 20 August 1982), i.

10. COL Allan M. Resnick, interview with author, Fort Leavenworth, KS, 13 September 1994.

11. Romjue, The Army of Excellence, 12.

12. COL Allan M. Resnick, interview with author, Fort Leavenworth, KS, 13 September 1994.

13. Romjue, The Army of Excellence, 16.

14. Romjue, The Army of Excellence, 15-17.

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18. United States General Accounting Office, Army Force Structure, 11.

19. John C. "Doc" Bahnsen, Jr., "The Kaleidoscopic US Army," Armed Forces Journal International, November 1985, 82.

20. Romjue, The Army of Excellence, 23-24.

21. United States Department of the Army, FM 100-5, Operations (Washington D.C.: U.S. Government Printing Office, 5 May 1986), 4.

22. Romjue, The Army of Excellence, 53.

23. Romjue, The Army of Excellence, 62-65; Robert L. Keller, interview with author, Fort Leavenworth, KS, 9 September 1994.

24. Romjue, The Army of Excellence, 56.

25. United States Department of Defense, Report of the Secretary of Defense to the President and the Congress (Washington D.C.: U.S. Government Printing Office, Annually, 1970-1994); Edward J. Dewey, "A New Army 21"

(Carlisle Barracks, PA: Study Project, United States Army War College, 31 January 1990), 7. This graph is a combination of the information presented in the annual reports and Dewey's study. The presentation of this information is in the same manner as presented in Dewey's study. As Dewey stated, there is not one source that contains this information. A combination of these two sources provides the necessary information for this monograph.

26. United States General Accounting Office, Army Force Structure, 4.

27. Robert L. Keller, interview with author, Fort Leavenworth, KS, 9 September 1994.

28. United States General Accounting Office, Army Force Structure, 25.

29. Romjue, The Army of Excellence, 4.

30. GEN Gordon R. Sullivan, "Tailoring America's Army for the 21st Century," Interview by Jerry C. Hill, Field Artillery, December 1992, 4.

31. COL Allan M. Resnick, interview with author, Fort Leavenworth, KS, 13 September 1994.

32. Student Text MSF-94PW, Operational Concepts for the Mobile Strike Force (Fort Leavenworth, KS: United States Army Command and General Staff College, Class Material for Course A316 - Battle Command, AY93-94, 1994), 1-1.

33. Battle Labs...Maintaining the Edge, 34.

34. "Battle Labs: A New Dynamic," Army Logistician, March-April 1993, 14.

35. Ibid.

36. COL Allan M. Resnick, interview with author, Fort Leavenworth, KS, 13 September 1994.

37. COL Gregory Fontenot, interview with author, Fort Leavenworth, KS, 7 October 1994.

38. Christopher Bellamy, The Evolution of Modern Land Warfare: Theory and Practice (London: Routledge, 1990), 30-31.

39. United States Department of the Army, FM 100-5, Operations (Washington D.C.: U.S. Government Printing Office, 14 June 1993), vi.

40. United States Department of the Army, TRADOC Pamphlet 525-5, Force XXI Operations (Fort Monroe, VA: United States Army Training and Doctrine Command, 1 August 1994), 3-18.

41. Ibid., Glossary-4.

42. Ibid., 3-1.

43. Army Focus 94, 10.

44. United States Department of the Army, TRADOC Pamphlet 525-5, Force XXI Operations, 3-17,18.

45. Ibid., 4-6.

46. Ibid., 3-20.

47. GEN Gordon R. Sullivan, "America's Army: Getting It Right For The 21st Century," Armed Forces Journal International, January 1994, 27.

48. COL Allan M. Resnick, interview with author, Fort Leavenworth, KS, 13 September 1994.

49. United States Department of the Army, TRADOC Pamphlet 525-5, Force XXI Operations, 4-2,3.

50. For the graph DIVISIONS and END STRENGTH see United States Department of Defense, Report of the Secretary of Defense to the President and the Congress (Washington D.C.: U.S. Government Printing Office, Annually, 1970-1994); Edward J. Dewey, "A New Army 21" (Carlisle Barracks, PA: Study Project, United States Army War College, 31 January 1990), 7. This graph is a combination of the information presented in the annual reports and Dewey's study. The presentation of this information is in the same manner as presented in Dewey's study. As Dewey stated, there is not one source that contains this information. A combination of these two sources provides the necessary information for this monograph. For the graph ACTIVE ARMY COMPONENT

PERSONNEL STRENGTH see Association of the United States Army Institute of Land Warfare, Army Budget - Fiscal Year 1995: An Analysis (Arlington, VA: Association of the United States Army, May 1994), 25.

51. Association of the United States Army Institute of Land Warfare, Army Budget - Fiscal Year 1995: An Analysis (Arlington, VA: Association of the United States Army, May 1994), 20.

52. Daniel G. Dupont and Richard Lardner, "Force XXI," Armed Forces Journal International, October 1994, 51.

53. United States Department of the Army, TRADOC Pamphlet 525-5, Force XXI Operations, 1-5.

54. Ibid., 2-5,6.

55. Stephen Peter Rosen, Winning the Next War (Ithaca: Cornell University Press, 1991), 6, 252.

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57. Robert L. Keller, interview with author, Fort Leavenworth, KS, 9 September 1994.

58. Bahnsen, "The Kaleidoscopic US Army," Armed Forces Journal International, 78.

59. Frederic J. Brown, The U.S. Army in Transition II: Landpower in the Information Age (Washington: Brasseys (US), Inc., 1993), 88-89.

60. United States General Accounting Office, Army Force Structure, 45.

61. Interviews and personal experience while working with the Mobile Strike Force during CGSC 93-94 provided the necessary information to determine current lessons learned. Current lessons learned in the context of advantages and disadvantages help provide insight to the current force design initiative. Studying the previous force design lessons learned as well as the advantages and disadvantages of the Mobile Strike Force enhance the ability to make a determination of whether the Mobile Strike Force is a sound method for designing the Force XXI division.

62. Robert L. Keller, interview with author, Fort Leavenworth, KS, 9 September 1994.

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64. Eliot A. Cohen and John Gooch, Military Misfortunes (New York: The Free Press, 1990), 26-28.

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